

State Job No. 474730

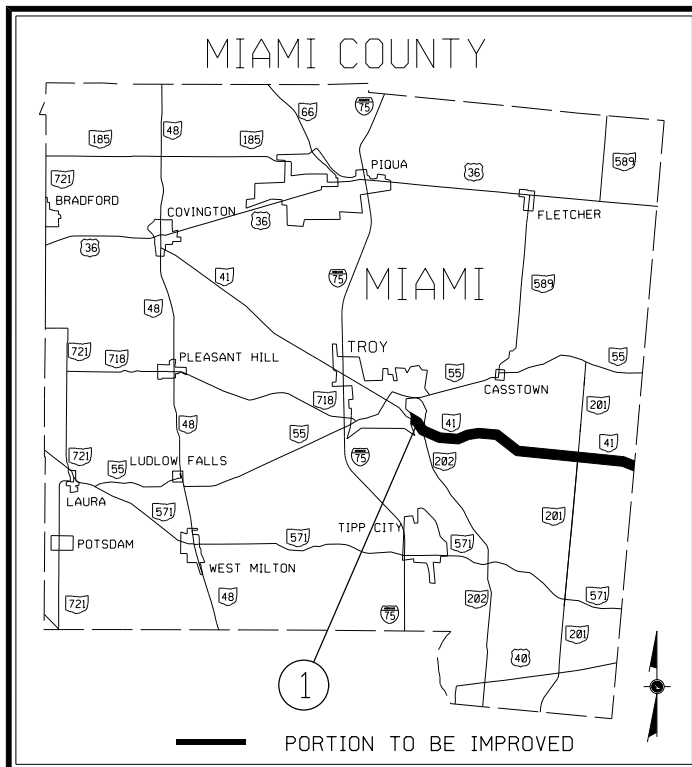
Project No.

PID No. 23848

FED. No. E033(854)

STATE OF OHIO OHIO DEPARTMENT OF TRANSPORTATION MIA-41-0.00

LOCATION MAP



MAINTENANCE TWO-LANE RESURFACING

Project Earth Disturbed Area = 1.64 Acres
Estimated Contractor Earth Disturbed Area = N/A
Notice of Intent Earth Disturbed Area = N/A

2002 SPECIFICATIONS

The Standard 2002 Specifications of the State of Ohio Department of Transportation, including changes and supplemental specifications listed in the plans and the proposal shall govern these improvements.

I hereby approve these plans and declare that the making of this improvement will not require the closing of the highway to traffic and that provisions for the maintenance and safety of traffic will be as set forth in the plans and estimates.

Date Approved

District Deputy Director

Date Approved

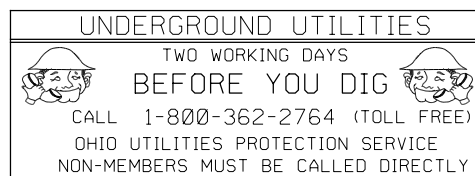
Director, Department of Transportation

PROJECT DESCRIPTION: The work proposed by this project consists of shoulder stabilization and resurfacing the existing State Route 41 roadway using Item 448, Asphalt Concrete as set forth in these plans.

- ① MIA-41-0.00 (Clark/Miami County Line to the East Corporation Limits of the City of Troy)

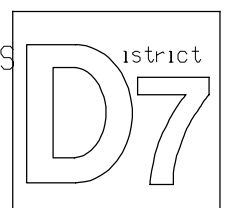
- 1 - Title Sheet
- 2 - Pavement Data
- 3 - Berm Stabilization
- 4 - Approach Typical
- 5 & 6 - General Notes
- 7 thru 11 - Bridge Sheets
- 12 - Raised Pavement Markers
- 13 & 14 - General Summary

ENGINEER'S SEAL



STANDARD DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	
BP-3.1	7-28-00	MT-99.20M	1-30-95		
DM-4.3	7-19-02			832	4-17-04
DM-4.4	7-19-02	TC-65.10	10-19-01	833	2-12-03
GR-2.2M	10-21-97	TC-65.11	10-19-01		
		TC-65.12	10-19-01	841	4-19-02
MT-97.10	4-19-02	TC-71.10	4-19-02		
MT-97.11	4-19-02			908	4-18-03

PLAN PREPARED BY:



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Signed _____

Date _____

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN IN THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM THE PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATION AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE STRUCTURE AND PROPOSED WORK, BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO THE CMS SECTIONS 102.05 AND 105.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PRE-BID EXAMINATION OF THE EXISTING STRUCTURES BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS, WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD. PLANS OF THE EXISTING STRUCTURES MAY BE EXAMINED AT THE DISTRICT SEVEN OFFICE IN SIDNEY, OHIO OR THE BUREAU OF BRIDGES AND STRUCTURAL DESIGN AT COLUMBUS, OHIO.

ITEM 517 - RAILING REBUILT, AS PER PLAN

THE RAILING SHALL BE ADJUSTED TO THE PROPER HEIGHT AS PER STANDARD DRAWING GR2.2M. SLOTS MAY NEED TO BE LENGTHENED OR NEW GUARDRAIL POSTS USED TO ACHIEVE REQUIRED HEIGHT.

POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM

SEE INSERT SHEETS. ALL ASPHALT DIMENSIONS ARE MEASURED AT THE EDGE OF THE STRUCTURE. THE ACTUAL DEPTH OF THE JOINT WILL BE THICKER AT THE CENTER OF THE ROADWAY.

SRS SEALER

SEAL BRIDGE DECK WITH SRS SEALER AS PER SS841 EXCEPT AS NOTED BELOW.

NOTE: DECK MUST BE FLOODED WITH SRS SEALER. THE USE OF SPRAYERS IS PROHIBITED.

PROPOSED WORK - MIA-41-0059

REMOVE 3.0" OF EXISTING ASPHALT CONCRETE WEARING COURSE FROM BRIDGE DECK AND APPROACH SLABS. GRIND BACK 100.0' FROM EACH EDGE OF BRIDGE FOR A SMOOTH TRANSITION. OVERLAY DECK WITH 2.0" ASPHALT CONCRETE. ADD POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM. ADJUST THE BRIDGE RAILING TO THE PROPER HEIGHT DURING THE PAVING OPERATION.

PROPOSED WORK - MIA-41-0132

REMOVE 4.0" OF EXISTING ASPHALT CONCRETE WEARING COURSE FROM BRIDGE DECK. GRIND BACK 150.0' FROM EACH EDGE OF BRIDGE FOR A SMOOTH TRANSITION. OVERLAY DECK WITH 2.0" ASPHALT CONCRETE. ADJUST THE BRIDGE RAILING TO THE PROPER HEIGHT DURING THE PAVING OPERATION.

PROPOSED WORK - MIA-41-0231

REMOVE 4.0" OF EXISTING ASPHALT CONCRETE WEARING COURSE FROM BRIDGE DECK. GRIND BACK 150.0' FROM EACH EDGE OF BRIDGE FOR A SMOOTH TRANSITION. OVERLAY DECK WITH 2.0" ASPHALT CONCRETE. SAW AND SEAL ASPHALT CONCRETE PAVEMENT JOINTS WITH JOINT SEALER, 705.04. ADJUST THE BRIDGE RAILING TO THE PROPER HEIGHT DURING THE PAVING OPERATION.

PROPOSED WORK - MIA-41-0422

REMOVE ALL OF EXISTING ASPHALT CONCRETE WEARING COURSE FROM BRIDGE DECK. OLD WATERPROOFING WILL BE ENCOUNTERED. GRIND BACK 200.0' FROM EACH EDGE OF BRIDGE FOR A SMOOTH TRANSITION. GRIND 1.0" OUT OF KEYWAYS, THEN RESEAL. REMOVE DRIP STRIP. WATERPROOF BRIDGE DECK. APPLY DRIP STRIP. OVERLAY DECK WITH 2.0" ASPHALT CONCRETE. ADD POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM. ADJUST THE BRIDGE RAILING TO THE PROPER HEIGHT DURING THE PAVING OPERATION.

JOINT SEALER, AS PER PLAN

REMOVE 1.0" DEEP EXISTING KEYWAY GROUT. RESEAL KEYWAYS WITH JOINT SEALER, 705.04.

PROPOSED WORK - MIA-41-0644

SKIP STRUCTURE AND APPROACH SLABS. GRIND BACK 100.0' FROM EACH EDGE OF APPROACH SLAB FOR A SMOOTH TRANSITION. SEAL BRIDGE DECK WITH SRS SEALER.

PROPOSED WORK - MIA-41-0785

OVERLAY AS REGULAR ROADWAY.

PROPOSED WORK - MIA-41-0833

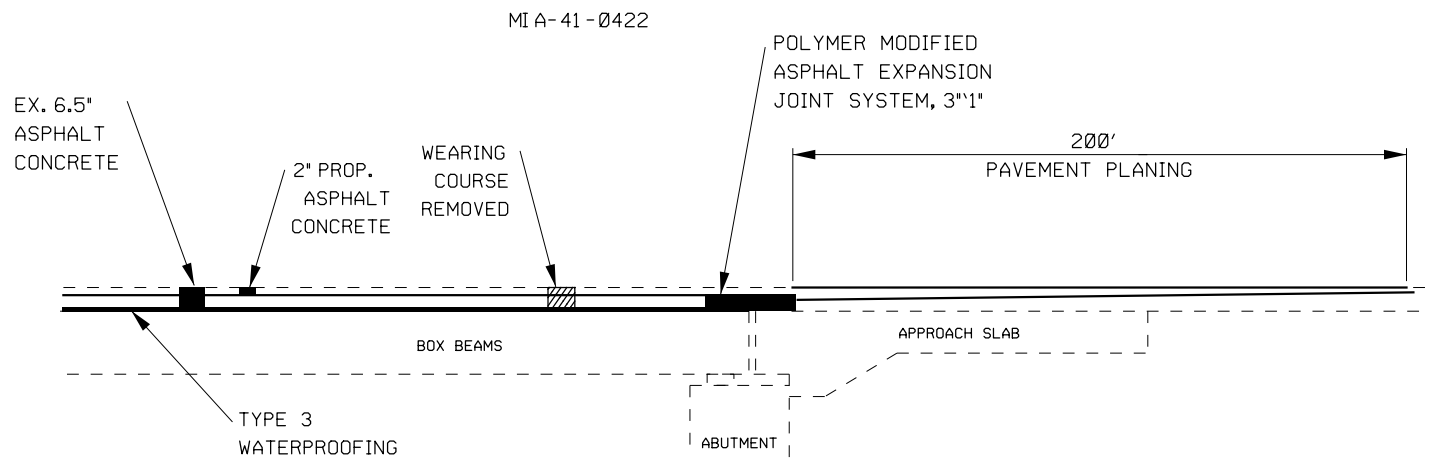
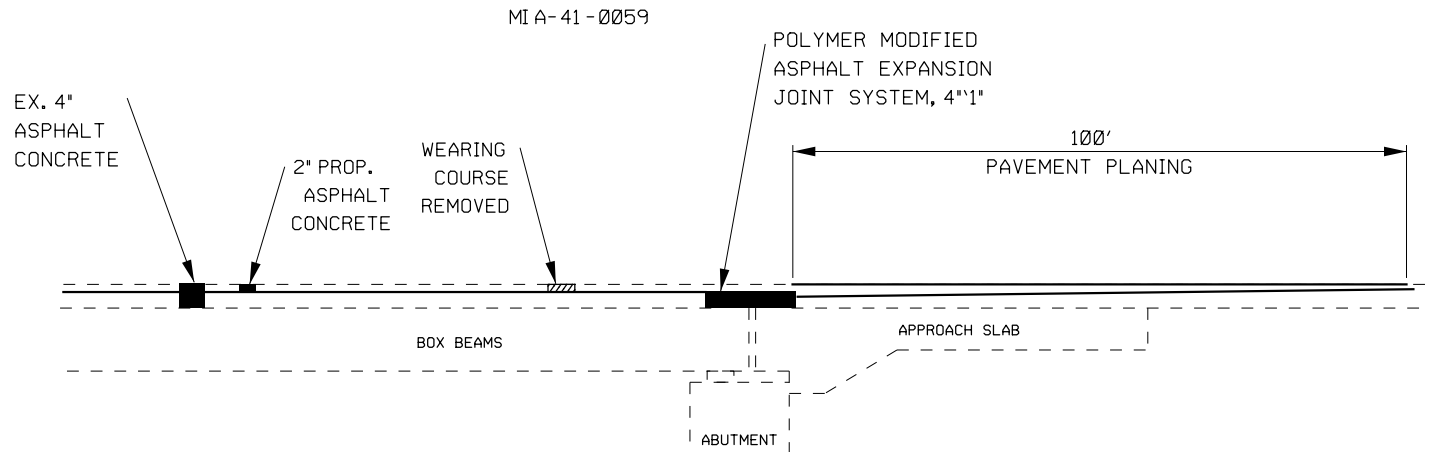
SKIP CONCRETE DECK AND APPROACH SLABS. GRIND BACK 100.0' FROM EDGE OF APPROACH SLABS FOR A SMOOTH TRANSITION.

CALCULATED BY
LEE
CHECKED BY

MIAMI COUNTY
MIA-41-0.00

BRIDGE - PROPOSED WORK

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MIAMI COUNTY
MIA-41-0.00

BRIDGE - PROPOSED WORK

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PART	MIA-41 0059	MIA-41 0132	MIA-41 0231	MIA-41 0422	MIA-41 0644	MIA-41 0833		ITEM	ITEM EXTENSION		UNIT	DESCRIPTION
	981	877	929	1632	711	356		202	23500	5486	SQ. YD.	WEARING COURSE REMOVED
				228				512	33010	228	SQ. YD.	TYPE 3 WATERPROOFING
			56					516	31000	56	FT.	JOINT SEALER, 705.04
				427				516	31001	427	FT.	JOINT SEALER, AS PER PLAN
	92			88				SPEC	51631300	180	FT.	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM
				95				SPEC	51822300	95	FT.	STEEL DRIP STRIP
					1198			841	10000	1198	SQ. YD.	TREATMENT OF CONCRETE SURFACES WITH SRS
	4	-	-	4	-	-					EACH	Wedges
	2"	2"	2"	2"	-	-						Proposed Asphalt Concrete Thickness
	2"	4"	4"	6.5"	-	-						Wearing Course Removed Thickness

BRIDGE NO.	LENGTH (Bridge Limits) FT.	WIDTH FT.	BRIDGE DECK AREA S.Y.	STRUCTURE FILE NUMBER	COMMENTS (Wearing Course)
MIA-41-0059	58.34	40.00	259	5500478	4" Existing Asphalt Concrete
MIA-41-0132	19.00	36.50	77	5500516	5.5" Existing Asphalt Concrete
MIA-41-0231	41.50	28.00	129	5500540	5" Existing Asphalt Concrete
MIA-41-0422	47.44	44.00	232	5500583	6.5" Existing Asphalt Concrete
MIA-41-0644	204.91	44.00	1002	5500613	Existing Concrete Deck and Approach Slabs
MIA-41-0785	CULVERT			5500680	Existing Asphalt Concrete
MIA-41-0833	753.67	30.00	2512	5500699	Existing Concrete Deck and Approach Slabs

Quantities to be carried
to the General Summary

ITEM SPECIAL - POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM

THIS ITEM WILL BE USED TO SEAL THE EXPANSION JOINTS AS PER THESE DETAILS AND THE MANUFACTURERS REQUIREMENTS USING A POLYMER MODIFIED ASPHALT SYSTEM. THE PRIME CONTRACTOR WILL OBTAIN THE SERVICES OF ONE OF THE FOLLOWING LICENSED APPLICATORS WHO WILL FURNISH AND INSTALL THE NEW BRIDGE EXPANSION JOINT SYSTEM AFTER ALL PAVING ON THE AFFECTED BRIDGE (S) HAS BEEN COMPLETED.

D.S. BROWN COMPANY
300 E. CHERRY STREET
NORTH BALTIMORE, OH 45872
(419) 257-3561

LINEAR DYNAMICS, INC.
79 MONTGOMERY STREET
MONTGOMERY, PA 17752
(570) 547-1621

SILICONE SPECIALTIES, INC.
P.O. BOX 50009
TULSA, OK 74150
(918) 587-5567
(800) 888-8909

WATSON-BOWMAN-ACME
95 PINEVIEW DR.
AMHERST, NY 14228
(716) 691-7566
(800) 253-9226

MATERIALS:

BRIDGING PLATE: MILD STEEL 1/8" OR 1/4" THICK PLATE, 8" WIDE

BINDER:

TYPE: POLYMER MODIFIED ASPHALT
SOFTENING POINT: 180 DEGREES F. MIN.
FLOW: 1/8" MAX. AT 140 DEGREES F.
PENETRATION: 3/8" MAX. AT 77 DEGREES F.
1/32" MAX AT 0 DEGREES F.
ASTM D 3407
DUCTILITY: 40 CM. MIN. ASTM D 113
RESILIENCE: 60% MIN. AT 25 DEGREES C.
TENSILE ADHESION: 700% MIN.
SPECIFIC GRAVITY: 1.10 * 0.05
POURING TEMP: 350-390 DEGREES F.

AGGREGATE:

TYPE: CRUSHED, DOUBLE WASHED AND DRIED GRANITE OR BASALT
GRADATION THE GRADUATION OF THE AGGREGATE VARIES BY MANUFACTURER AND WILL BE AS PER THE MANUFACTURER'S RECOMMENDATIONS FOR THE SYSTEM BEING USED ON THIS PROJECT

BACKER ROD: PROPERTY	NOMINAL VALUE	TEST METHOD
DENSITY	20 LB./CU. FT.	ASTM D 1622
TENSILE STRENGTH	25 PSI	ASTM D 1623
WATER ABSORPTION BY VOLUME	0.5%	ASTM C 509
COMPRESSION DEFLECTION AT 8 PSI	25%	ASTM D 1621
TEMPERATURE RESISTANCE	-45 TO +450 DEGREES F	

INSTALLATION PROCEDURES:

SAWING AND SEALING PREPARATION

AFTER ALL PAVING OPERATIONS ARE COMPLETED, THE OVERLAY IS TO BE TRANSVERSELY SAW CUT FULL DEPTH NO LESS THAN 2" DEEP (20" CENTERED OVER JOINT OPENING, UNLESS OTHERWISE NOTED), REMOVE ALL MATERIAL BETWEEN SAW CUTS. THOROUGHLY CLEAN AND DRY EXPOSED CONCRETE, STEEL, AND CUT SURFACES USING COMPRESSED AIR AND A HOT COMPRESSED AIR (HCA) LANCE. THE LANCE MUST PRODUCE A FLAME RETARTED AIR STREAM TEMPERATURE OF 3000 DEGREES F. AT A VELOCITY OF 3000 FEET PER SECOND WITH 15 PSIG GAGE CHAMBER PRESSURE. IF THERE IS AN INTERRUPTION DUE TO WEATHER OR OTHER CAUSES, THE OPERATION WILL BE REPEATED WITH THE HCA LANCE IMMEDIATELY BEFORE THE BINDER COAT OPERATION. ALSO, 6" OF THE ROAD SURFACE ON EITHER SIDE OF THE JOINT WILL BE DRIED SO THAT A SUITABLE SURFACE FOR BITUMEN ADHESION IS OBTAINED.

SEALING OF EXPANSION JOINT: (PRESTRESSED BOX OR CONCRETE SLAB)

THE EXPANSION JOINT CAP IS TO BE SEALED AND A BRIDGING PLATE CENTERED ALONG IT. A VERY NARROW GAP WILL BE SEALED BY POURING HOT BINDER INTO THE GAP. GAPS OF 1/8" OR MORE WILL FIRST BE FILLED WITH AN APPROPRIATE SIZED BACKER ROD. THE BACKER ROD WILL BE INSTALLED SO THAT IT IS BETWEEN 1/8" AND 1 1/8" BELOW THE TOP OF THE EXISTING GAP. THE GAP WILL THEN BE FILLED WITH BINDER.

BOND BREAKER:

SPREAD BINDER OF SURFACE AREA WHERE THE METAL BRIDGING PLATE WILL BE PLACED. CENTER THE BRIDGING PLATE OVER THE EXISTING JOINT AND BED INTO THE HOT BINDER. BUTT JOINT THE BRIDGING PLATES TO ACCOMODATE THE ENTIRE JOINT LENGTH. SPIKE HOLES WILL BE DRILLED AT 1 FOOT INTERVALS ALONG THE LONGITUDAL CENTERLINE OF THE PLATES. SECURE BRIDGING PLATE WITH NAILS OR SPIKES. SEAL BUTT JOINTS WITH HOT BINDER AND ALLOW BINDER TO SET UP BEFORE THE NEXT OPERATION

CALCULATED BY	MIAMI COUNTY MIA-41-0.00	GENERAL NOTES AND DETAILS FOR POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	1	
CHECKED BY			2	

BINDER COAT:

SEAL ALL PREPARED, EXPOSED SURFACES OF THE JOINT WITH BINDER. POUR THE HOT BINDER OVER FLOOR AREA OF THE JOINT AND SPREAD TO COAT ALL EXPOSED SURFACES. THE BINDER WILL BE MINIMUM OF 1/32 OF AN INCH THICK ON THE BOTTOM OF THE JOINT CAVITY, WITH POOLS OF GREATER THICKNESS WHERE SURFACE IRREGULARITIES EXIST. THE BINDER APPLICATION TEMPERATURE WILL BE BETWEEN 350 AND 390 DEGREES F. THE BINDER WILL NOT BE ALLOWED TO BE HEATED ABOVE 410 DEGREES F., NOR ALLOWED TO EXCEED 390 DEGREES F. FOR MORE THAN 1 HOUR.

BUILD-UP OF JOINT LAYERS:

AGGREGATE PREPARATION:

HEAT THE AGGREGATE TO A TEMPERATURE OF 275 TO 325 DEGREES C., WITH A SUITABLE ROTATING DRUM WITH ATTACHED HEAT SOURCE OR A HOT COMPRESSED AIR LANCE, TO REMOVE ALL DUST AND MOISTURE.

AGGREGATE PROPORTION AND LAYER THICKNESS:

MIX THE AGGREGATE WITH THE BINDER SUCH THAT THE MINIMUM AGGREGATE CONTENT BY WEIGHT WILL BE 68%. THE HEATED AGGREGATE AND BINDER WILL BE COMBINED IN LAYERS NOT LESS THAN 0.75 INCHES EXCEEDING 2 INCHES. THE THICKNESS OF EACH LAYER CAN BE VARIED, WITHIN THESE LIMITS, TO ACHIEVE THE REQUIRED JOINT THICKNESS (MINIMUM 2 INCHES). THE OBJECTIVE IS TO COAT EACH STONE AND FILL THE VOIDS WHILE AVOIDING AN EXCESS OF BINDER. THIS WILL ACHIEVE THE MAXIMUM CONTENT OF STONE CONSISTENT WITH ALL STONES BEING COATED WITH A BINDER AND A MAXIMUM VOID CONTENT OF 2%. RAKE THE MIXTURE TO MIX AND LEVEL.

AGGREGATE PREPARATION:

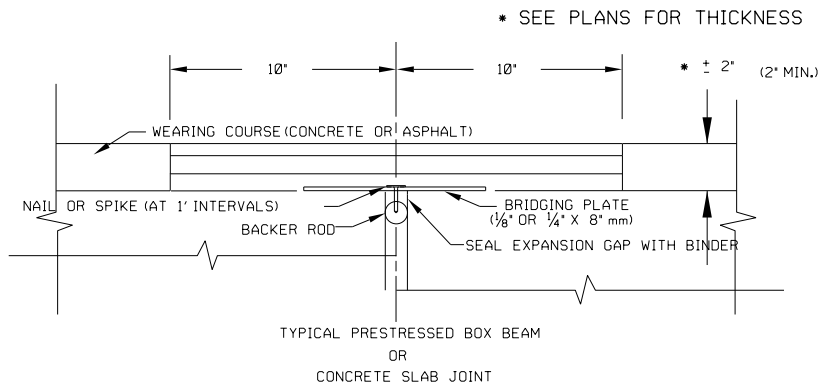
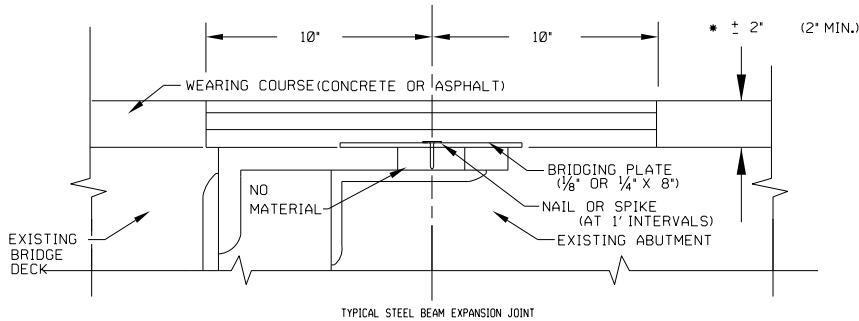
THE TOP LAYER THICKNESS WILL VARY BETWEEN 1/2 INCH AND ONE INCH. IN PREPARING THE TOP LAYER, THE RATIO OF AGGREGATE TO BINDER WILL BE APPROXIMATELY 6:1 BY WEIGHT. THE RATIO IS NOT ABSOLUTELY VITAL SINCE ADDITIONAL BINDER WILL INFILTRATE THE TOP LAYER FROM BOTH BELOW AND ABOVE. OVERFILL THE TOP LAYER AND COMPACT TO THE LEVEL OF THE ADJACENT SURFACES USING A ROLLER OR VIBRATORY PLATE COMPACTOR. IMMEDIATELY AFTER COMPLETION OF THE COMPACTION, POUR SUFFICIENT BINDER OVER THE JOINT TO FILL THE SURFACE VOIDS AND COAT THE SURFACE STONE. DUST THE FINISHED JOINT WITH A FINE, DRY AGGREGATE TO PREVENT TACKINESS.

MAINTENANCE OF TRAFFIC:

IF NECESSARY TO FACILITATE TRAFFIC MAINTENANCE, THE JOINT WILL BE INSTALLED IN TWO (2) HALF-WIDTH PHASES. DURING PHASE 1 APPROXIMATELY HALF OF THE TOTAL JOINT WILL BE INSTALLED. DURING PHASE 2, A MINIMUM OF 2 INCHES OF THE PHASE 1 JOINT WILL BE REMOVED, AT OR NEAR THE CENTERLINE, WITH THE REMAINDER OF THE JOINT INSTALLED. IN ALL CASES, OPERATIONS WILL BE SCHEDULED SO THAT ALL LANES CAN BE OPEN TO TRAFFIC DURING ALL NON-WORKING HOURS.

PAYMENT:

PAYMENT FOR ALL THE ABOVE WILL BE AT THE UNIT PRICE BID PER LINEAR METER OF SEALED JOINT IN PLACE FOR ITEM SPECIAL 516-31300, POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM (SEE PLANS FOR THICKNESS). THIS WILL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.



CALCULATED BY	MIAMI COUNTY MIA-41-0.00	GENERAL NOTES AND DETAILS FOR POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	2	11
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